



The Requirements Building Stronger **Behind** Partnerships to Control Costs

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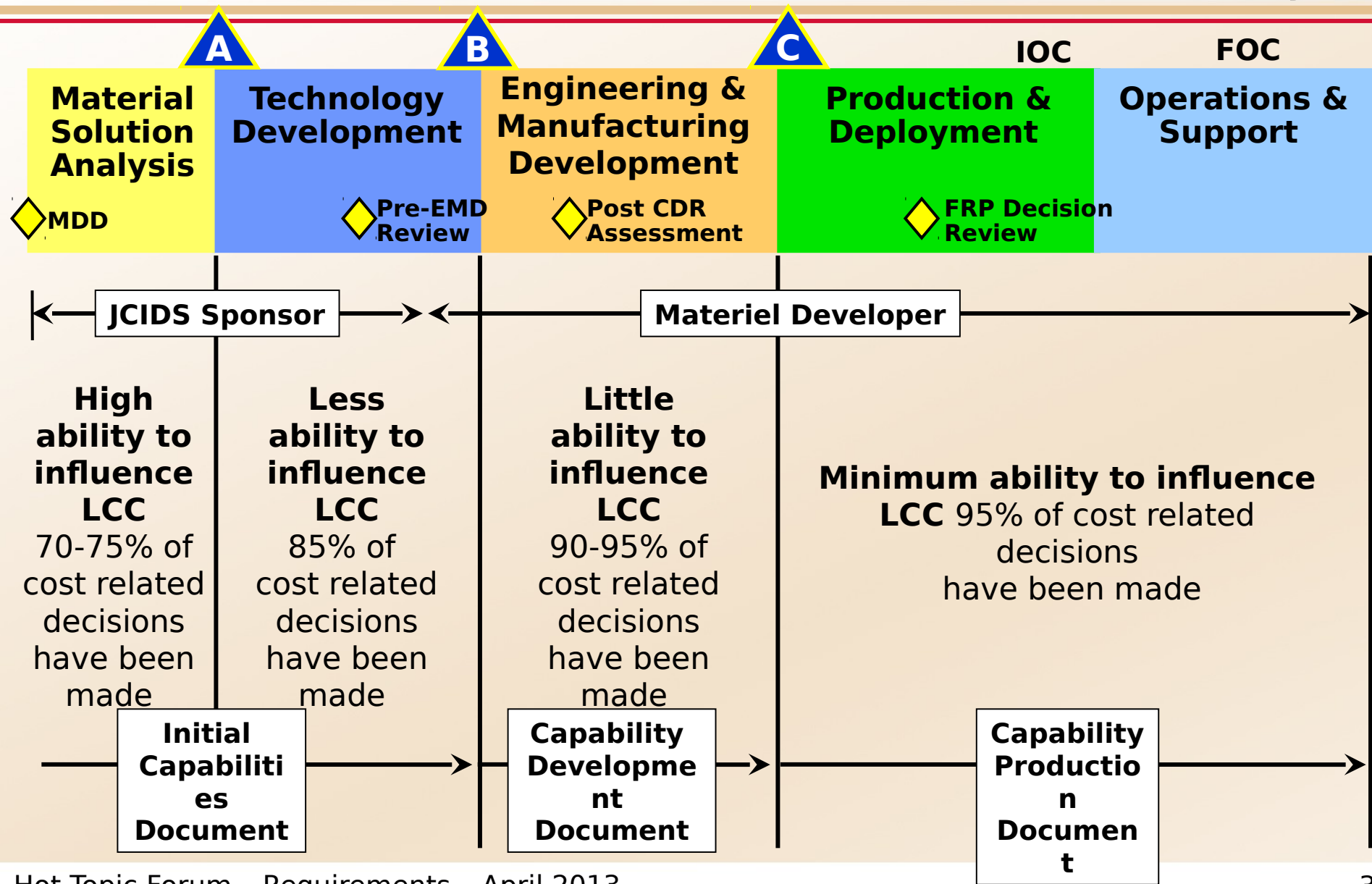


Requirements Problems and Solutions

- When do we have the best opportunities to affect program costs?
- Problems with Requirements
 - GAO Report 13-103
- The requirements development process:
 - What goes wrong? How do we make it right?
- Configuration Steering Boards (CSB)
 - Who sits on the CSBs
 - What the CSBs do
- The need to understand tradeoffs
- Efforts to reform requirements development
- What DAU is doing to help build partnerships



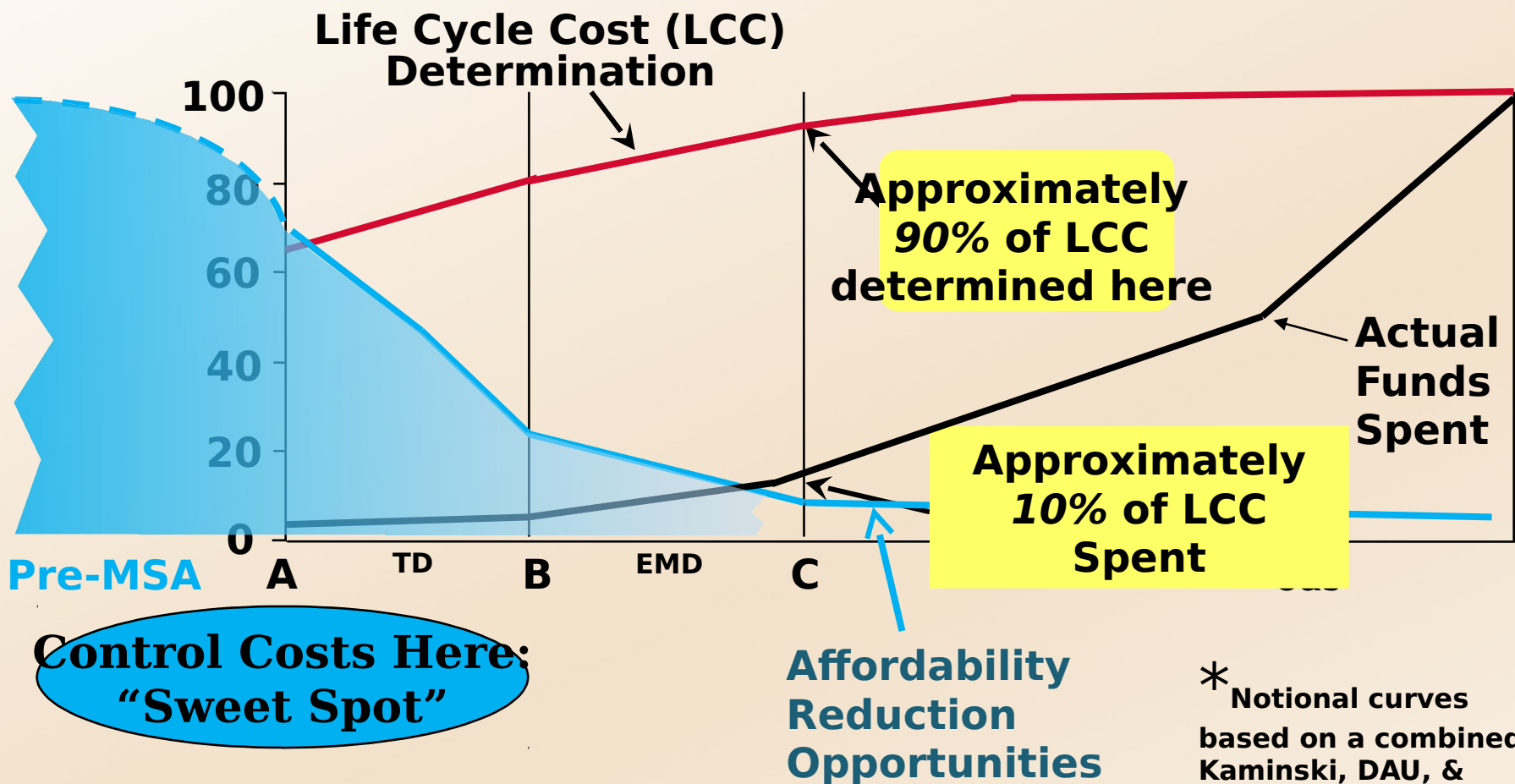
Ability to Influence Program Affordability





The Best Time to Control Costs

Life Cycle Affordability Determination*





GAO Report 13-103: Weapons Acquisition Reform, December 2012

- Demanding, inflexible requirements
- Unproven technologies
- Not meeting suitability requirements during operational testing
- Deficiencies
 - High failure rates
 - Disappointing improvements in reliability, availability, and maintainability
 - Limited program performance
 - Increased operation and support costs



Greater Emphasis on Requirements

- Raise cost and schedule matters before we establish performance objectives
 - A good requirement is attainable
 - A good requirement is necessary
 - A good requirement is orderly
- The JROC and the CSBs ensure we consider cost, schedule, and performance trade-offs
- Include combatant commanders in requirements development



The Four Questions behind Requirements Development

- What do we want?
- What do we need?
- What do we need to do?
- What can we afford?

- Choose:
 - Have it cheap
 - Have it fast
 - Have it done right

- What do we tell Requirements Managers?

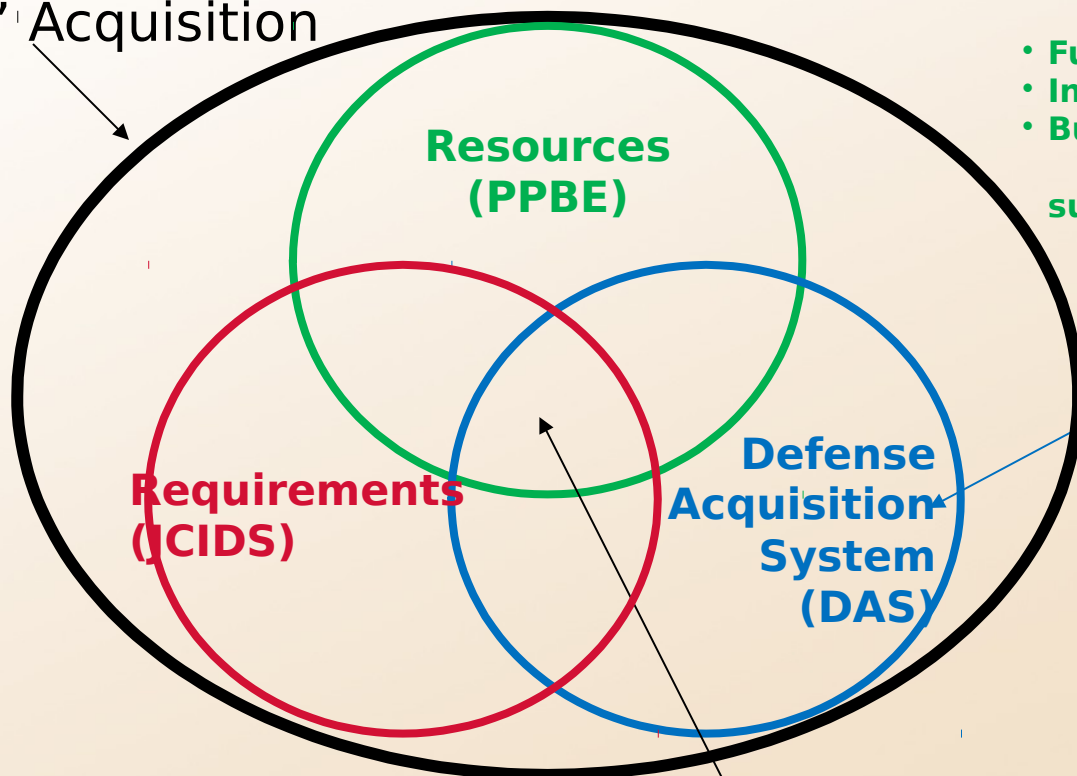
- What does it really take to do the mission?
 - Do you really need 40 knots?
 - Do you really need 9 Gs?
- How do you know that's what you need?
- Are you aware of the associated costs?
 - Unreliable technologies
 - Lower availability
 - Derived requirements
- Where is the trade space?
 - Never: Threshold = Objective
 - The significance of each Key Performance Parameter (KPP)
 - What should be a Key System Attribute (KSA)?



What Goes Wrong? Why Do Things Go Wrong?

- Tradeoffs involve multiple points of view
 - Performance includes suitability, maintainability, reliability, and availability
- Analysis must incorporate multiple expertise
- Recognize the cost drivers
- Cultural barriers degrade communications
- Translating requirements into specifications
 - A specification is not a requirement
 - Beware the derived requirement
 - Beware the “Requirements Creep”

Big "A" Acquisition



- Funding instability
- Insufficient resource trade space
- Budget not properly phased or of insufficient magnitude to support planned development

Small "a" Acquisition

- Immature technologies
- Inadequate systems engineering
- Inadequate requirements flow-down, traceability, or decomposition
- Insufficient schedule trade space
- Inadequate implementation of Earned Value Management
- Lack of time and assets for testing

- Inter- and intra-departmental stakeholder support

- Lack of JROC-validated requirements documents for basic program (ICD, CDD, CPD)
- Inadequate requirements for basic program and any increments
- Requirements "creep"
- Critical dependence on external programs with developmental issues

Strive for the overlap! Get JCIDS, DAS, and PPBE to work together



Configuration Steering Boards: Who?

- The Acquisition Executive of each DoD Component will chair a Configuration Steering Board for ACAT I and ACAT IA programs
- Broad executive membership:
 - Senior representatives from the Office of the USD(AT&L)
 - The Joint Staff
 - Representatives from the office of the chief of staff of the Armed Force concerned
 - Other Armed Forces representatives where appropriate
 - The Military Deputy to the CAE
 - The PEO
- DoD Components should also form appropriate level and composition Configuration Steering Boards for lower ACAT programs.



Configuration Steering Boards (CSBs): What Do They Do?

- Establish Service, OSD, and Joint Staff reviews
 - Review requirements and significant technical configuration changes during development and throughout program lifecycle
 - Identify and mitigate improperly defined or scoped requirements that adversely impact cost, schedule and risk
 - Drive routine cost and capability-informed reviews of military requirements throughout a program's development and lifecycle
 - Maintain high visibility on requirements creep
 - Maintain close coordination and collaboration between Defense Acquisition Office and Requirements Management
- Build Stronger Partnerships**



Opportunities to Build Stronger Partnerships

- Get the Requirements Managers and the Program Offices working together
- RMs need insight into the acquisition processes
 - Science and Technology
 - Systems Engineering
 - Test and Evaluation
 - Logistics
- The common Requirements Manager complaint:
“Chuck, I go to those acquisition reviews, and I have no idea what they are talking about.”
- Program Managers, Program Offices, and RMs must recognize what each contributes



Definition and Roles of the Requirements Manager

- Requirements Manager:
 - A military Service member or DoD civilian charged with assessing, developing, validating, and prioritizing requirements and associated requirements products through the Joint Capabilities Integration and Development System (JCIDS) process
- Requirements Managers act for the warfighters
 - To the requirements development process (JCIDS)
 - To the "Big A" acquisition community
- Establish and maintain streamlined communications
 - DoD includes many different points of view
 - Every manager and decision maker needs a common understanding of what the warfighters need
- The Requirements Manager must advocate effective solutions while avoiding "Requirements Creep"



What Does an RM Do at the Action Level?

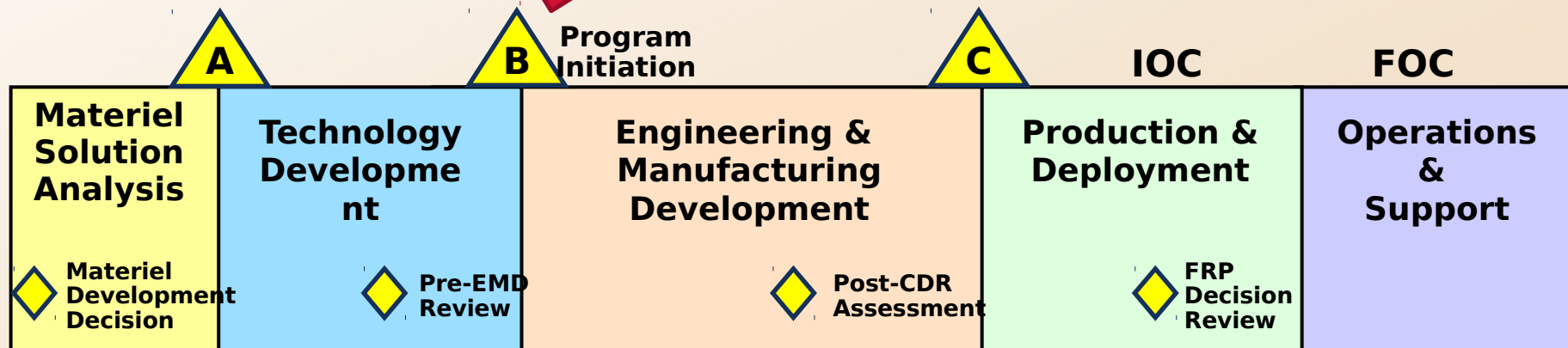
- Analysis: Determine requirements
 - Identify what the warfighter needs to do
 - Requirements and not “Desirements”
- Document: Communicate requirements
 - Develop JCIDS documents
 - Staff and validate those documents
- Oversee the DAS and PPBE capability delivery
 - Reinforce process discipline
 - Avoid “Requirements Creep”
 - Be the “Manager in the Muddy Boots”

Establish the Need - Follow the Program



The Defense acquisition System

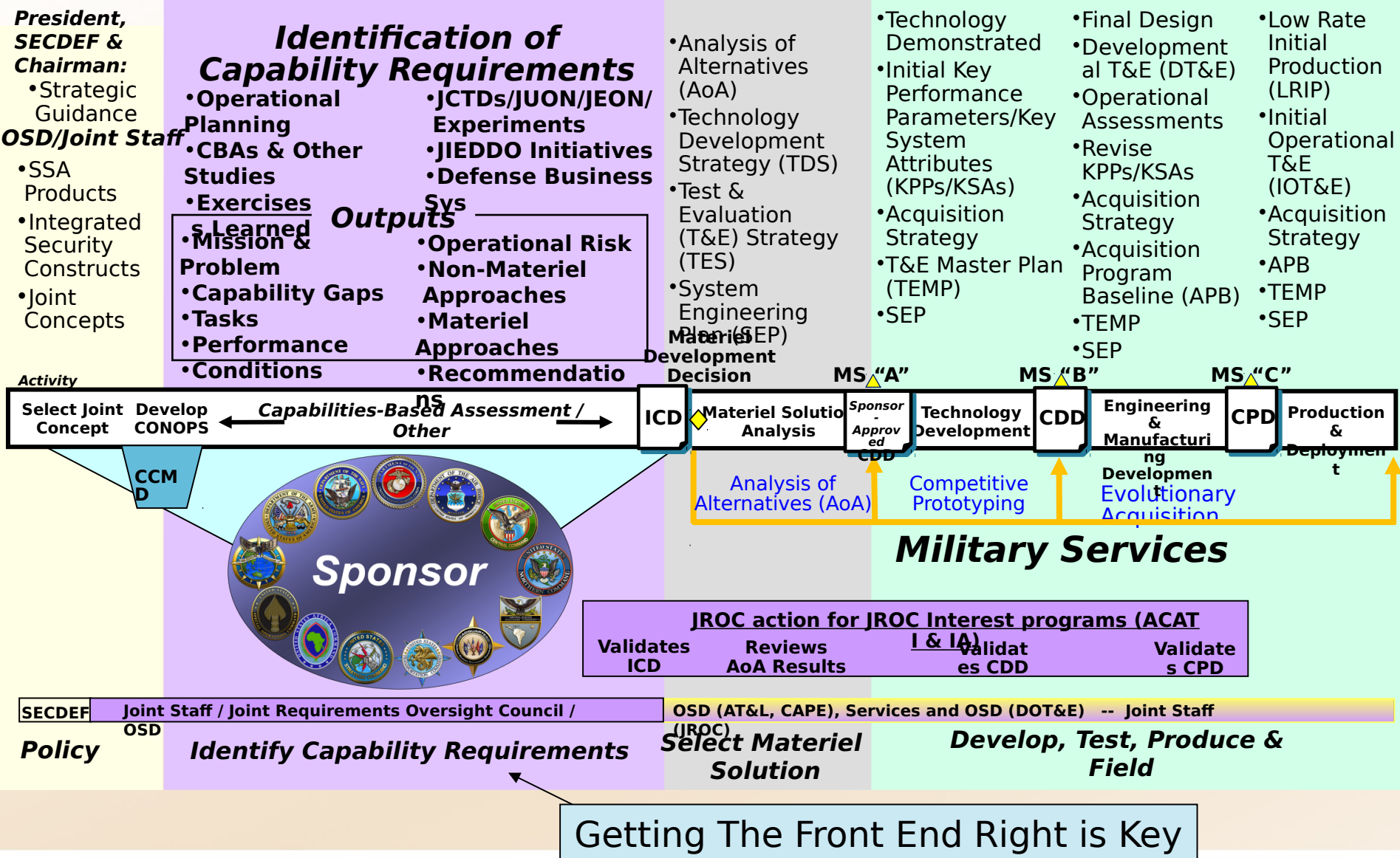
Acquisition usually assigns a Program Manager and begins a Program Office at Milestone B



Most DAU training concentrates on when the money is being spent, not on when the system makes the truly expensive decisions



Defense Acquisition: JCIDS and the DAS





How Is JCIDS Evolving?

- Consolidated instructions
- FCB joint prioritization within portfolio
- Tripwire processes
- Review previously validated requirements and programs
- The “IT Box” construct
- Formalized Capability Gap Assessment (CGA) process
- Greater J-7 role to emphasize non-materiel solutions
- Streamlined joint staff procedures and timelines
 - Greater flexibility to revise requirements
- Three lanes: Deliberate, Emergent, Urgent

- Program Managers and Requirements Managers must appreciate the entire spectrum of their respective jobs
 - Tradeoffs
 - Provisioning for sustainment not conducted until after fielding
 - Logistic sustainment not included throughout the process
- What does the PM bring?
 - Budget
 - Depth
 - Technical possibilities and technical limitations
- What does the RM bring?
 - Mission expertise, practicality, operational depth and perspective



FY 2007 National Defense Authorization Act (NDAA)

- Develop a program to certify requirements personnel
- Address:
 - Interrelationship between requirements, PPBE, and acquisition
 - Developing joint operations requirements
 - Early baselining of program requirements and “the adverse effect” of changing or adding requirements
 - Importance of technology maturity and alternatives
- What Is DAU Doing?



Certification Training Levels

CLR 101 Introduction to JCIDS	RQM 110 Core Concepts for Requirements Management	RQM 310 Advanced Concepts and Skills	RQM 403 Requirements Executive Overview Workshop	RQM 413 Senior Leader Requirements Course
4 - 6 hours	24 - 30 hours	4 ½ days	1 day	Tailored

Required Training Level Guidelines

A	Contribute to the Requirements generation and capability development process in various capacities to include: JCIDS analysis, subject matter or domain expertise, document staffing and coordination and / or administrative support - <i>Requirements Originators and Support</i>
B	Significantly involved with Requirements generation and capability development in specific capacities, i.e. study leadership, planning, writing, adjudicating comments, and facilitating inter-organizational development and coordination of Requirements documents - <i>Requirements Writers and Developers</i>
C	Designated by organizational leadership for advanced Requirements instruction; Primary duties involve leadership / supervisory roles in requirements generation and capability development ; Organizational representative in pertinent program management and JCIDS forums to include FCB Working Group, FCB, JCB and JROC meetings - <i>Requirements Supervisors, Presenters, and Trainers</i>



Requirements Management Training Progression

Core

CLR 101
Introduction to
JCIDS

RQM 110
Core Concepts
for
Requirements
Management

RQM 310
Advanced
Concepts and
Skills

Core Plus

CLR 151
Analysis of
Alternatives

CLR 250
Capabilities-
Based
Assessments

CLR 252
Developing
Requirements

CLR 030
Environment,
Safety and Occ.
Health

Executive Level

RQM 403
Requirements
Executive Overview
Workshop (REOW)

RQM 413
Senior Leader
Requirements
Overview



Deployed

In revision



What Is the Acquisition Community To Do?

- It all comes down to better communications
 - Understand the importance of early technology decisions
(in JCIDS, in the CSBs, and in acquisition)
to cost, schedule, and performance
- PMs must:
 - Be realistic about what things cost
 - Project realistic schedules
 - Deliver what the warfighter needs
- RMs must:
 - Be careful what they ask for
 - Stay on top of the solutions we can get for realistic costs
 - Avoid “transom management”
 - Participate throughout development





Backup Slides

- Measurable
- Attainable
- Necessary
- Correct
- Unambiguous
- Orderly
- Organized
- Results-Oriented

- Requirements need to be
 - Quantifiable
 - Verifiable
- How
 - Inspection
 - Analysis
 - Demonstration
 - Simulation
 - Testing

- Measurable
- Attainable
- Necessary
- Correct
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- Must be:
 - Feasible
 - Achievable
- Build with today's technology
- Within available time
- Within available money
- Technology Readiness Levels

- Measurable
- Attainable
- Necessary
- Correct
- Unambiguous
- Orderly
- Organized
- Results-Oriented

- Is it necessary to accomplish the mission?
- What are the fiscal constraints?
- No room for
 - Nice to have
 - Desires
 - Frivolous

- Measurable
- Attainable
- Necessary
- Correct
- Unambiguous
- Orderly
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- Results-Oriented

- Accurate to what needs to be delivered
 - Does the requirement track back to the Measures of Effectiveness (MOEs) and Measures of Performance (MOPs) in the ICD?
 - What capability is needed in the field?
 - Users drive this
 - They know what they need
 - Involve them early
- Measurable
 - Attainable
 - Necessary
 - Correct
 - Unambiguous
 - Orderly
 - Organized
 - Results-Oriented

- Multiple readers = same understanding
 - Interpretation of any requirement is not good
 - Do not use:
 - User-friendly
 - Fast
 - Easy
 - Flexible
 - State-of-the-art
 - Maximize/minimize
 - Efficient
 - Semi-automatic
- Measurable
 - Attainable
 - Necessary
 - Correct
 - Unambiguous
 - Orderly
 - Organized
 - Results-Oriented

- Prioritize requirements
 - Use KPP, KSA and Attribute tables
 - Can prioritize within “tiers”
 - There are constraints
 - PM will do trade-offs
 - Priorities will help their decisions
- Measurable
 - Attainable
 - Necessary
 - Correct
 - Unambiguous
 - Orderly
 - Organized
 - Results-Oriented

- Strategy to task
- Trace thru ID to Development to Verification
- Group into categories (missions / functions)
- This cuts down on
 - Duplication
 - Inconsistencies
 - Contradictions

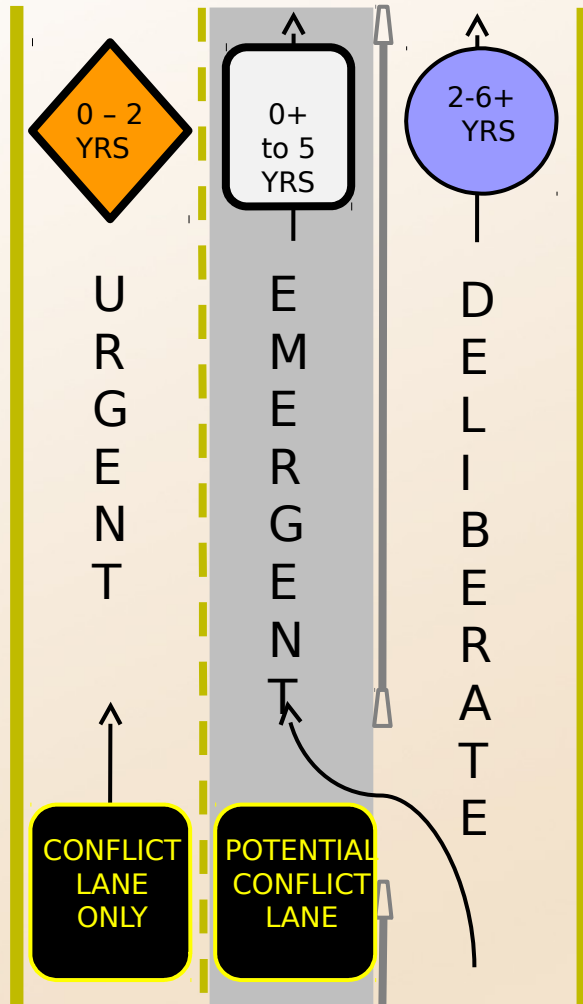
- Measurable
- Attainable
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- What does it have to DO?
- Capability based
- What are the needs?
- Not how to accomplish the mission

- Measurable
- Attainable
- Necessary
- Correct
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- Orderly
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Three Requirements “Lanes”

“Keep right, except to pass”



- **Deliberate Requirements**
 - Service, CCMD or Agency Driven
 - Traditional route for capabilities that require significant tech development and/or are not urgent or compelling in nature
- **Emergent Requirements**
 - CCMD Driven
 - Supports accelerated acquisition of capabilities needed for an anticipated or pending contingency operation
 - VCJCS verifies, JCB or JROC validates
- **Urgent Requirements**
 - CCMD Driven
 - Urgent and compelling to prevent loss of life and/or mission failure during current operations
 - Require little tech development and can be resolved in less than two years
 - DDR validates



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- Broad executive membership:
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 - The Assistant Secretary for Acquisition or his or her designee
 - The Joint Staff
 - Empowered representatives from the Service Chief of Staff and comptroller offices of the Military Department concerned
 - Representatives from other Military Departments where appropriate
 - The Military Deputy to the DoD CAE
 - The PEO
 - Other senior representatives from OSD and the DoD Component
- DoD Components should also form appropriate level and composition Configuration Steering Boards for lower ACAT programs.